



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-0259; Project Identifier AD-2020-01128-E]

RIN 2120-AA64

Airworthiness Directives; CFM International, S.A. Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede Airworthiness Directive (AD) 2013-26-01, which applies to all CFM International, S.A. (CFM) CFM56-3 and CFM56-7B model turbofan engines with a certain accessory gearbox assembly (AGB) not equipped with a handcranking pad oil dynamic seal assembly. AD 2013-26-01 requires an independent inspection to verify re-installation of the handcranking pad cover after removal of the pad cover for maintenance. Since the FAA issued AD 2013-26-01, a dual-engine oil loss event occurred, prompting CFM to revise its service information to provide procedures for reworking and reidentifying the AGB. The FAA has also evaluated the requirement to install a redesigned handcranking pad oil dynamic seal assembly in response to the dual-engine oil loss event. This proposed AD would continue to require independent inspection to verify re-installation of the AGB handcranking pad cover after maintenance. This proposed AD would require the replacement of the affected AGB as a terminating action to the inspection requirement. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact CFM International, S.A., Aviation Operations Center, 1 Neumann Way, M/D Room 285, Cincinnati, OH 45125; phone: (877) 432-3272; email: fleetsupport@ge.com. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (781) 238-7759.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0259; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Christopher McGuire, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7120; fax: (781) 238-7199; email: Chris.McGuire@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2021-0259; Project Identifier AD-2020-01128-E” at the beginning of your comments. The most helpful comments reference a specific portion of the final rule, explain the reason for any recommended change, and include supporting data. The FAA

will consider all comments received by the closing date and may amend this NPRM because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Christopher McGuire, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA issued AD 2013-26-01, Amendment 39-17710 (78 FR 79295, December 30, 2013), (AD 2013-26-01), for all CFM CFM56-3 and CFM56-7B model turbofan engines equipped with a certain AGB not equipped with a handcranking pad oil dynamic assembly. AD 2013-26-01 requires an independent inspection to verify re-installation of the AGB handcranking pad cover after any maintenance involving the removal and reinstallation of the AGB handcranking pad cover. As an optional terminating action to the inspection requirements, AD 2013-26-01 allowed the installation of an AGB that incorporates a handcranking pad oil dynamic seal assembly.

AD 2013-26-01 resulted from 42 events of total loss of engine oil from CFM56 model turbofan engines while in flight. The FAA issued AD 2013-26-01 to prevent loss of engine oil while in flight, which could result in engine failure, loss of thrust control, and damage to the airplane.

Actions Since AD 2013-26-01 Was Issued

Since the FAA issued AD 2013-26-01, a dual-engine oil loss event occurred, prompting the FAA to propose the mandatory installation of a redesigned handcranking pad oil dynamic seal assembly. In addition, CFM revised its service information to provide procedures for replacing the starter drive pad assembly and handcranking cover assembly and for reworking and reidentifying an affected AGB to a part eligible for installation.

FAA's Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Related Service Information under 1 CFR Part 51

The FAA reviewed CFM International CFM56-7B Service Bulletin (SB) 72-0879, Revision 6, dated March 1, 2018 (CFM SB 72-0879); CFM International SB CFM56-3 SB 72-1129, Revision 7, dated May 5, 2020 (CFM SB 72-1129); and CFM International SB CFM56-7B SB 72-0564 Revision 8, dated May 6, 2020 (CFM SB 72-0564). CFM SB 72-1129 describes procedures for the introduction of a new starter drive pad, new handcranking cover assembly, and reworking and reidentifying an AGB installed on CFM56-3 model turbofan engines. CFM SB 72-0879 and CFM SB 72-0564 describe procedures for the introduction of a new starter drive pad, new handcranking cover, and reworking and reidentifying an AGB installed on CFM56-7B model turbofan engines. CFM SB 72-0879 and CFM SB 72-0564 are differentiated by the part numbers of the AGBs eligible for rework and the new part numbers by which these AGBs will be reidentified once rework is complete. This service information is reasonably available

because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Proposed AD Requirements in this NPRM

This proposed AD would retain certain requirements of AD 2013-26-01. This proposed AD would require the performance of an independent inspection to verify re-installation of the AGB handcranking pad cover after maintenance. Alternatively, this proposed AD would require the insertion of an independent inspection as a required inspection item in the approved continuous airworthiness maintenance program for the aircraft not later than the next time the AGB handcranking pad cover is removed for maintenance. This proposed AD would also remove the optional terminating action in AD 2013-26-01 and add a mandatory terminating action for certain model turbofan engines, requiring the removal and replacement of an affected AGB with an AGB that incorporates the oil dynamic seal assembly.

For all CFM56-3B and the majority of CFM56-7B turbofan engine models, this proposed AD would require replacement of the AGB as a mandatory terminating action to the inspection requirement of this AD. This proposed AD does not require this terminating action for CFM56-7B27A, CFM56-7B27A/3 and CFM56-7B27AE model turbofan engines because these model engines, which are installed only in military airplanes, do not have a replacement AGB eligible for installation.

Costs of Compliance

The FAA estimates that this AD, as proposed, would affect 700 engines installed on airplanes of U.S. registry. The FAA estimates that the majority of operators will perform the repair and reidentification of the AGB rather than replace the AGB with a zero hour part. For the purpose of this cost estimate, the FAA estimates that 95% of AGBs will be repaired and reidentified while 5% of AGBs will be replaced with a zero hour AGB.

The FAA estimates the following costs to comply with this proposed AD:

Estimated costs

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Independent Inspection	1 work-hour x \$85 per hour = \$85	\$0	\$85	\$59,500
Insert inspection item into aircraft maintenance program	1 work-hour x \$85 per hour = \$0	\$0	\$85	\$59,500
Rework and reidentify AGB	4 work-hours x \$85 per hour = \$340	\$12,000	\$12,340	\$8,206,100
Replace AGB with zero hour AGB	4 work-hours x \$85 per hour = \$340	\$526,700	\$527,040	\$18,446,400

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA has determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Would not affect intrastate aviation in Alaska, and

(3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

a. Removing airworthiness directive 2013-26-01, Amendment 39-17710 (78 FR 79295, December 30, 2013); and

b. Adding the following new airworthiness directive:

CFM International, S.A.: Docket No. FAA-2021-0259; Project Identifier AD-2020-01128-E.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) action by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2013-26-01, Amendment 39-17710 (78 FR 79295, December 30, 2013).

(c) Applicability

This AD applies to CFM International, S.A. CFM56-3 and CFM56-7B model turbofan engines equipped with an accessory gearbox (AGB) assembly with the following part numbers (P/Ns):

(1) For CFM56-3, CFM56-3B, and CFM56-3C model turbofan engines, AGB P/N: 335-300-103-0, 335-300-105-0, 335-300-106-0, 335-300-107-0, 335-300-108-0, 335-300-109-0, or 335-300-110-0, installed.

(2) For CFM56-7B20, CFM56-7B20/2, CFM56-7B20/3, CFM56-7B22, CFM56-7B22/2, CFM56-7B22/3, CFM56-7B22/3B1, CFM56-7B22/B1, CFM56-7B24, CFM56-7B24/2, CFM56-7B24/3, CFM56-7B24/3B1, CFM56-7B24/B1, CFM56-7B26, CFM56-7B26/2, CFM56-7B26/3, CFM56-7B26/3B1, CFM56-7B26/3B2, CFM56-7B26/3B2F, CFM56-7B26/3F, CFM56-7B26/B1, CFM56-7B26/B2, CFM56-7B27, CFM56-7B27/2, CFM56-7B27/3, CFM56-7B27/3B1, CFM56-7B27/3B1F, CFM56-7B27/3B3, CFM56-7B27/3F, CFM56-7B27/B1, and CFM56-7B27/B3 model turbofan engines, AGB P/N: 340-046-503-0, 340-046-504-0, or 340-046-505-0, installed.

(3) For CFM56-7B27A, CFM56-7B27A/3, or CFM56-7B27AE model turbofan engines, AGB P/N: 340-188-601-0, 340-188-603-0, or 340-188-605-0, installed.

(d) Subject

Joint Aircraft System Component (JASC) Code 7260, Turbine Engine Accessory Drive.

(e) Unsafe Condition

This AD was prompted by a dual engine loss of oil event and 42 prior events of total loss of engine oil during flight. The FAA is issuing this AD to prevent loss of engine oil while in flight. The unsafe condition, if not addressed, could result in engine failure, loss of thrust control, reduced control of the aircraft, and damage to the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) After the effective date of this AD, after any maintenance that involves removal and re-installation of the AGB handcranking pad cover, perform an independent inspection to verify re-installation of the AGB handcranking pad cover; or

(2) Prior to the next removal of the AGB handcranking pad cover from the engine, insert the independent inspection required by paragraph (g)(1) of this AD as a

required inspection item in the existing approved continuous airworthiness maintenance program for the aircraft.

(h) Mandatory Terminating Action

As a mandatory terminating action to the requirements of paragraph (g) of this AD:

(1) For affected CFM56-3, CFM56-3B, and CFM56-3C model turbofan engines, at the next engine shop visit, or before December 31, 2026, whichever occurs first after the effective date of this AD, replace the affected AGB with a part eligible for installation.

(2) For affected CFM56-7B model turbofan engines, except for CFM56-7B27A, CFM56-7B27A/3 and CFM56-7B27AE model turbofan engines, at the next engine shop visit, or before December 31, 2024, whichever occurs first after the effective date of this AD, replace the affected AGB with a part eligible for installation.

(i) Definition

(1) For the purpose of this AD, an “engine shop visit” is the induction of an engine into the shop for maintenance involving the separation of pairs of major mating engine case flanges, except for the following situations, which do not constitute an engine shop visit:

(i) Separation of engine flanges solely for the purposes of transportation of the engine without subsequent maintenance.

(ii) Separation of engine flanges solely for the purpose of replacing the fan or propulsor without subsequent maintenance.

(2) For the purpose of this AD, for affected CFM56-3, CFM56-3B, and CFM56-3C model turbofan engines, a part eligible for installation is:

(i) An AGB with a part number other than 335-300-103-0, 335-300-105-0, 335-300-106-0, 335-300-107-0, 335-300-108-0, 335-300-109-0, 335-300-110-0, or

(ii) An affected AGB that has been reworked and reidentified to a part number eligible for installation using CFM International Service Bulletin (SB) CFM56-3 SB 72-1129, Revision 7, dated May 5, 2020.

(3) For the purpose of this AD, for affected CFM56-7B model turbofan engines, except for CFM56-7B27A, CFM56-7B27A/3 and CFM56-7B27AE model turbofan engines, a part eligible for installation is:

(i) An AGB with a part number other than 340-046-503-0, 340-046-504-0, or 340-046-505-0, or

(ii) An affected AGB that has been reworked and reidentified to a part number eligible for installation using, as applicable, CFM International SB CFM56-7B SB 72-0879, Revision 6, dated March 1, 2018, or CFM International SB CFM56-7B SB 72-0564 Revision 8, dated May 6, 2020.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, ECO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.1914. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in Related Information. You may email your request to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(k) Related Information

(1) For more information about this AD, contact Christopher McGuire, Aviation Safety Engineer, ECO Branch, FAA, 1200 District Avenue, Burlington, MA 01803; phone: (781) 238-7120; fax: (781) 238-7199; email: Chris.McGuire@faa.gov.

(2) For service information identified in this AD, contact CFM International, S.A., Aviation Operations Center, 1 Neumann Way, M/D Room 285, Cincinnati, OH 45125; phone: (877) 432-3272; email: fleetsupport@ge.com. You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (781) 238-7759.

Issued on March 30, 2021.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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